

SEP 7 1922

The Public Health Journal

OFFICIAL ORGAN

Canadian Public Health Association

Vol. XIII

TORONTO, AUGUST, 1922

No. 8

SPECIAL ARTICLES

THE ACTIVITIES OF THE RESEARCH LABORATORY IN THE DEPARTMENT OF HEALTH OF CANADA

NORMAN MacL. HARRIS, M.B.

THE WIRT PUBLIC SCHOOLS

THE TRAINING OF SUB-NORMAL CHILDREN

DR. ELIZA BRISON

SOIL POLLUTION

F. A. DALLYN

\$2.00 per annum.

207 YORK BLDG., TORONTO

20 cents per copy.

Mutual Life Surplus

Policyholders in the Mutual Life of Canada have an ever-growing annual surplus, thanks to sound investments, a low mortality rate and economical management. The surplus earnings of the Company increased last year to \$46.47 per \$1,000 of assets, amounting to a total of \$2,243,038.

The proportion of total income required for operating expenses last year was only 18.60%, so that profit-participating policyholders after all the claims were paid, benefited by substantial reduction in the cost of their insurance.

It pays to be a Mutualist.

The MUTUAL LIFE
of Canada
WATERLOO, ONTARIO

146

MORE DEADLY THAN WAR

Statistics show that influenza is much more deadly than war. In a few months it took more victims than fell in over four years of fighting.

That it has awakened the average citizen to a more lively sense of the constant risk of death which he faces, and the results which would ensue for his dependents, is shown by the enormous and growing demand for life assurance protection.

Have you realized the magnitude of this risk as affecting you and yours?

For information regarding necessary protection communicate with the

SUN LIFE ASSURANCE
COMPANY OF CANADA
HEAD OFFICE - MONTREAL

T. E. Macanlay, President.

LONDON and SCOTTISH ASSURANCE CORPORATION LIMITED

Established in Canada 1883
FOR ALL CLASSES OF LIFE ASSURANCE

Scottish Metropolitan Assurance Company Limited

For Insurances against FIRE, ACCIDENT and SICKNESS;
GUARANTEE BONDS; ELEVATOR, AUTOMOBILES,
PUBLIC and TEAMS and EMPLOYERS' LIABILITY

Head Office for Canada

London and Scottish Building, MONTREAL

TOTAL ASSETS EXCEED \$30,000,000

Manager for Canada, ALEXR. BISSETT

BRANCHES AND AGENCIES THROUGHOUT THE DOMINION

When writing advertisers, please mention THE PUBLIC HEALTH JOURNAL.

The Public Health Journal

VOL. XIII.

TORONTO, AUGUST, 1922

No. 8

The Activities of the Research Laboratory in the Department of Health of Canada

NORMAN MACL. HARRIS, M.B.

Read before the Annual Meeting of the Canadian Public Health Association, St. John, N.B., June 8th, 1922.

THE passage of time brings changes everywhere, not alone to the individual, but also to groups, influencing modes of thought and lines of action, and causing the old to give way to the new.

Thus, with the passing of Bill 37 by the House of Commons on April 11th, 1919, under the title, "An Act Respecting the Department of Health," the old order gave way to the new and there was then established for the first time in the Government of Canada a Department of Health, with the Honourable Wesley Rowell as Minister.

In this connection it is not to be understood that the affairs of health had not previously been looked after officially by the Dominion Government. On the contrary, ever since Confederation, health matters had been supervised in part by the Departments respectively of Immigration and Agriculture, under the able guidance of such eminent men as Drs. F. Montizambert and Peter H. Bryce, whose work will ever remain a monument to their devotion and ability. But under the old system there was a lack of the co-ordinative efforts demanded by modern methods, particularly in reference to our interprovincial and international relationships, and to those of other governmental departments concerned in administering certain phases of public health control.

With the appointment, under the Act, of the Deputy Minister of Health, Dr. John A. Amyot, in August, 1919, the Department began to function, and divisions were organized, taking up one and another fields of activity, such as, Quarantine and Immigration,

Food and Drugs, Control of Narcotics, Proprietary Medicines, Child Welfare, Marine Hospitals, Venereal Disease Control, whilst at the same time the already existing laboratory of the Dominion Analyst was incorporated in the Department. The research laboratory, however, was the last of the divisions to be formally established. This was done on July 21st, 1921, following the appointment of the writer as Chief of the Division of Medical Research. Since assuming control of the Division, the writer has been so often interrogated by both professional and lay friends as to what are the functions of the new established laboratory in the Federal Department of Health that he considered no time so opportune as the present in which to make a brief statement bearing upon such a question.

Fundamentally the functions of any of the Divisions are largely determined by the wording of the Department of Health Act. As it applies to the laboratory of the Department, section 4, sub-section (b) provides for "the establishment and maintenance of a national laboratory for public health and research work." Its scope is indicated in the further wording of section 4 as it applies in general to the duties and powers of the Minister administering the Department. Therefore, as occasion demands, the laboratory may be called upon to "co-operate" with the various provincial, territorial and other health authorities in the solution or elucidation of any problem presenting itself that has a bearing upon the preserving or improving of the public health.

One important part of the work of the Division will be focussed in investigation of bacteriological problems connected with raw, canned, dried, or preserved foods; the testing of the potency and sterility of curative sera, the sterility of vaccines; the potency testing of organic arsenical preparations; the testing of potency of other biological preparations, such as suprarenal and pituitary extracts, and the physiological activity of such important drugs as digitalis, strophanthus, ergot, etc.

So that the public may be adequately protected, investigation will be undertaken, also, of the claims of pharmaceutical manufacturers, or of exploiters, relative to the so-called values of new biological or chemical products.

As the Department has under its charge the medical inspection, quarantine and care of immigrants and sailors, and likewise administers the various Marine Hospitals, the laboratory will naturally be called upon to investigate and advise regarding measures to be taken to protect the health of the people of the Dominion against

the importation of communicable diseases from overseas or from adjacent territories, and to study, if need be, any peculiar phases of disease among patients in Marine Hospitals.

The services of the laboratory may also be called for in matters affecting the health of employees in Federal buildings.

Problems connected with transportation, such as the sanitation of railway cars, steamboats and the like, and questions of streams and lakes pollution by them in relation to national public water supplies are included with the scope of the activities of the Division.

Questions arising out of enforcement of any of the regulations of the International Joint Commission in relation to boundary waters wherein the health of the inhabitants of Canada may be concerned, or where conditions arising on Canadian soil may lead to pollution of adjacent American waters, may present problems for the laboratory to solve. This will include, also, questions of possible pollution of international waterways by Canadian steamers, sailing vessels, or by railroads.

In the field of animal diseases that are capable of being transferred to man, the laboratory will be ready to join hands with the forces of the Veterinary Inspector-General in both combative effort and in pure research.

Research in the broad field of bacteriologic science will likewise be prosecuted, with particular reference to problems affecting the public health. In no sense will routine work, such as municipal or provincial laboratories undertake, be carried out.

The laboratory, it is hoped, will also be available for the giving of instruction to certain of the medical officers in the employment of the Dominion Government, enabling them to keep abreast of modern progress in laboratory work affecting their individual lines of service.

In matters of international public welfare, Canada is actively interested through the Department of Health, and it is expected that its Division of Medical Research will be prepared to co-operate in appropriate ways in the near future with the Public Health section of the League of Nations and with that influential active body, the Office Internationale d'Hygiene Publique.

With our neighbours south of the boundary line we are already on a basis of good relationship and active association, and will be prepared to work in unison with them on laboratory matters affecting the health of both communities.

At present, owing to the staff being incomplete and the laboratory itself only in temporary quarters, a beginning has been made in a modest way, but it is felt that even under present conditions a solid foundation is being laid for future and worthy achievements.

The Wirt Public Schools

THE Gary school system which Dr. William Wirt developed in the city that the United States Steel Corporation created in the midst of the picturesque sand dunes that border the southern shore of Lake Michigan, has received an unusual amount of attention from critics and investigators who have gone over the Wirt works singly or in groups within the past 16 years.

In spite of these investigations, and also because of them, the Wirt system has developed. Eight hundred other cities in the United States have benefited by it through the agency of the Bureau of Education in Washington, which, though avoiding all mention of Dr. Wirt or of Judge Gary, for whom the steel city received its name, has promoted Dr. Wirt's ideas wherever villages, towns, or cities sought assistance from the Federal Government.

All of the investigators advertised Dr. Wirt to the advantage of his system of public school education even when they were most severe. Newness in educational ideas is distasteful to many persons. Parents of Gary children were even bitter. They did not understand the Wirt ideas. He was by no means easy of access, and knew personally few fathers and mothers.

"The old system did very well, indeed," said some of these parents. "We got along finely with it. It produced all our presidents. Why go to the expense of putting in this new-fangled 'work-study-play' system?"

"Expense"—that was the idea. It was essential to consider expense. Dr. Wirt's school city grew fast. Money and more money was necessary. The State of Indiana allowed him \$10 for each child. He took the school census annually, and sent the figures to Indianapolis. It would be fully a year before the allotment reached Dr. Wirt. It happened on three occasions that when the State appropriation reached the Gary school superintendent he had twice as many children to provide for as he had mentioned in his report. The city's population had doubled and instead of having \$10 to spend on each child he had but \$5. Expense was of more moment to him than it was to the parent.

Though Dr. Wirt did spend millions on his system he got more for the city through his new plan than he could have gotten through

any of the older systems. Some investigators say he got 70 per cent. more through his way than the old ways could have given.

His principal economy was in using the whole school all the time. Every department in the Wirt schools is busy all of the school day, and this day is eight hours, which should be the limit of any working day. The auditorium, for instance, is not, or before Dr. Wirt's day, was not in use more than a half hour each day unless special exercises were in order.

Dr. Wirt keeps the auditorium very busy indeed. Excepting the luncheon period there are always some hundreds of children there. They listen to platform talks and learn to speak from the platform themselves. They learn to think on their feet and facing an audience. Stage fright is not for them in after years. They are immune.

So with the play grounds. Unless weather prevents the grounds are as busy as the auditorium. This gave critics occasion for comment. "All the children do is to play," declared one mother. "I never pass, rain or shine, that those kids aren't out romping round." She was half right. Children are on the playground long before the opening hour; and all day long until 9 o'clock at night, there will be children there as joyous as children well can be, but not the same children.

Playing is part of the Wirt curriculum. There is someone in charge all the time—a good teacher of games who enlarges the world of fun and restrains only when restraint is necessary. The several grades appear for outdoor work and games in turn through the day just as they have a schedule for auditorium, for the shops, for the gym and for the class rooms and the swimming pools.

The pools are busy all day, so are the gyms, the shops and the class rooms. And one may hear some thirty different languages in some of these class rooms any day in the week. English is the Gary school child's Esperanto; the homes he represents are from diverse countries, and through English only can they exchange ideas.

With regard to his schools Dr. Wirt is more than emphatic on one point. He insists that the schools belong to the people for the people paid for them. They are open Sundays and holidays for public use. Indeed, at any time the public wishes to use school facilities it may do so free of charge so long as the children themselves do not need them. Children come first.

This is shown very prettily at times. Dr. Wirt, probably does not know by name a score of the children he is making into first-class citizens. He isolates himself. But he has the good of the

"kiddies" at heart, nevertheless, day in and day out. The youngsters would not know him if they met him on the street. Some do not know whom you are talking about when you say "Wirt," and have no idea at all how he functions, but they do know that the school building and the grounds, in several instances 20 acres, that surround the schools, are for them to use.

They give many picnics in these grounds. They use the school kitchens to prepare their food. They use the gyms for their dances and they have parties in the sewing rooms. There are no charges. Also, the school gardens are theirs. They grow what they like; sell it, give it away, or eat it at home if it is garden truck. A girl in one of the Wirt schools, assisted by her small brother and his "express" wagon, took vegetables to market opposite the City Hall all through the season. From these sales she deposited in the National Bank of America, of which Dr. Wirt is president, \$114.65.

Speakers from the world over avail themselves of the hospitality of the Wirt schools to address audiences of many different nationalities in many different languages. All sorts of societies representing races that Americans in other cities would not recognize by name, hold meetings in the public school auditoriums.

"They pay school taxes; the schools are their property," says Dr. Wirt, and so, even in the "portables" which emergency often calls for and which the Doctor buys in quantities in Seattle, Washington, and brings to Gary, there is oft "the sound of revelry by night."

It is also Dr. Wirt's idea to employ specialists as much as possible. This calls for departments. The Rockefeller Foundation spent some \$60,000 investigating these departments to their benefit all Gary school teachers now grant.

It took time to bring them to their present state of effectiveness. Each department has a head. Under him or her are teachers who keep to one line of endeavor. The pupils move about from room to room as the hours call, going from the arithmetic teacher to the geography teacher and thence on to the grammar teacher, the history teacher, the shop, the playground and the gym.

The new comer sees confusion in all this, and says so, but a good result of the changing about is that the several teachers have the same children in the special subjects year after year, and through prolonged acquaintance with each pupil get more out of each.

These are a few of the characteristics of the Wirt system which has undergone an extraordinary amount of criticism for a dozen

years and more, and is spreading and prospering. It was born far from perfect, as far as is any other infant, but it is lusty. Dr. Wirt has developed it by constant care, so that its promise of a splendid manhood—a manhood of true citizenship is assured.

In closing, it is well to say that while religious instruction in any sectarian sense is not allowed in the schools, Dr. Wirt has instituted a system for the teaching of the broad principles of religion and morality, and has further arranged that any child may attend any of the several church schools in Gary that the parents may elect. He himself is a Methodist, as is his wife, who is a graduate of the Gary system, and was for several years his secretary. His oldest son Franz is a brilliant naval officer, and his other children a boy and a girl, are in the system still, with no favors shown, but making good emphatically.

The Training of Sub-normal Children

BY DR. ELIZA BRISON, *Halifax, N.S.*

Read before the Canadian Public Health Congress, St. John, N.B., June 8, 1922.

THE first known attempt to educate a mentally deficient person was in the year 1800 when Itard, physician in chief to the National Institution for the deaf and dumb in Paris, undertook the training of a boy, who had been found in the forest of Aveyron. This boy gave few marks of intelligence, walked sometimes on all fours, fought with his teeth, and had no articulate language. Itard, who did not believe that idiots were curable thought that this boy was a savage. So in devoting himself to this case, his object was not to improve or cure an idiot; it was to solve the meta-physical problem of determining what might be the degree of intelligence, and the nature of ideas in a lad, who, deprived from birth of all education, should have lived entirely separated from the individuals of his kind. Itard endeavoured for five years to develop the intelligence of his pupil; but becoming finally convinced that the boy was an idiot, gave up the attempt to educate him. Several attempts were made to teach others of more intelligence, both in America and in France; but they were not successful enough to be continued.

In 1837 Dr. Edward Seguin, a pupil of Itard, began the private instruction of idiots at his own expense. He continued his school in Paris until the Revolution in 1846, when he came to America, where he was the means of establishing several schools for idiots. In 1846 Dr. Seguin published his "Treatise of Idiocy." This book gives in an elaborate and systematic manner, the training of the defective brain by the physiological method, that is by the training of the special senses and the muscular system. His principles of education were at first thought visionary, but for many years his methods have been adopted by all schools that make an effort to teach the feeble minded. Dr. Seguin devoted his whole life to the bringing of light into these darkened lives, and when in 1854 he was privileged to be present at the laying of the cornerstone of the first school in America built expressly for idiots, at Syracuse, N.Y., it must have been with the deepest gratification that he saw recognized at last the claims of this most afflicted class of humanity;

and with a heart overflowing with love, he exclaimed: "To see that stone—token of a new alliance between humanity and a class hitherto neglected, is the greatest joy of my life."

Rev. Samuel May, nearly 100 years ago, expressed the feeling of his time when he said, "The time would come when access would be found to the idiotic brain; the light of intelligence admitted into its dark chambers, and the whole race be benefited by some new discovery on the nature of mind"; and about twenty-five years later Seguin said "Idiots have been improved, educated and even cured."

Although it has been known for many years, that an individual born with a defective mind cannot be cured, this knowledge gives us no reason for a lack of interest in their training. Indeed greater efforts should be made, since we are finding out what a power for evil they can be on account of their incurability, and in their untrained state. By all laws of right and justice, feeble-minded children should be given the same opportunities (according to their ability) for education, that is given their normal brothers and sisters. And all except the lowest grade, or absolute idiot, have some latent possibilities that can be cultivated. This is the aim of education, together with the repression and elimination of the vices; therefore, unless they have the proper training during their childhood and youth, they will be a serious burden to the country—a burden both in regard to what they do, and to what they do not do.

Until comparatively recent years "idiocy" referred to all the graver mental defects; now we use the descriptive terms "mental-defective" and "feeble-minded." They apply to all degrees of congenital defect, from the high grade child not far below normal to the lowest grade or absolute idiot.

The following data give a little idea of the prevalence of mental subnormality in some of our reformatory institutions, and of the need of more enlightened treatment: The mental examinations of 92 girls and boys in two of the reform schools in Nova Scotia shew 26 feeble-minded, 23 borderline cases, that is below normal; but with a little more intelligence than that possessed by a feeble-minded person, and 43 normal cases, which gives 28 per cent. feeble-minded, and altogether 53 per cent., who are mentally subnormal, and have not enough judgment and will power to keep them out of mischief. From personal work and observations among delinquents in Nova Scotia, the percentage of subnormal delinquents is usually in the neighborhood of 50 per cent. So nearly half of

the inmates in our reformatories will benefit very little from their confinement there, are a pernicious influence on the normal boys and girls, and a big expense to the country. With normal youthful offenders, the cause of delinquency is usually attributable to poor environment, as deplorable home conditions or bad associates, and a term of two or three years in a well-conducted reformatory is often just what these young people need. The justice of being punished for misdeeds, healthy surroundings and sufficient work must have a lasting influence for good on normal individuals; but on subnormals the effect is very different. Many do not know why they are punished; and it is rare to find a child of low mentality who does not resent correction; and those who have intelligence enough to understand, have such weak powers of resistance, that when not under restraint, they will easily become tools for unscrupulous persons. Even fear of what may follow or promises of reward cannot keep them from wrong doing. Here are a few cases which are not unusual, and will show the tendency of the untrained feeble-minded:

CASE 1. A high grade feeble-minded girl—a moron, age 20, mental age 10 years, good home, although mother is dead, neat and attractive appearance. For the last five years she has been disappearing from home for about four or five days at a time. This happens about every two months and she stays away until found by friends or the police. She always arrives home in a dirty exhausted condition, and will not talk of where she has been or what she has been doing. Several times she has been found on the street late at night; and it is believed that she was out for immoral purposes. Twice her father has had her confined in institutions, hoping that she might be helped to overcome her dreadful habits; then she would make so many promises of future good behavior, that her father, not listening to advice, would be sure that she would do better; but instead of being reformed, she is becoming more clever in eluding her family and the police. Although lazy and untruthful, she is very likeable, and has many friends among younger children.

CASE 2. A feeble-minded girl, age about 16 years, mental age 9 years, was committed to a reformatory for a serious sexual offence, and was detained there for nearly four years. Great efforts were made to help her, and she received much religious and moral training. At last it was decided to allow her to have a chance; but on the very day she was released, she started again her life of crime, and within a year became a mother.

CASE 3. A 15-year-old boy, borderline deficiency, committed for stealing. When his year was nearly up he got out the fire escape one night and was in the act of breaking into a nearby store, when he was caught. It was some time after this that he was allowed his freedom, but was only out for a short time, when he had to be committed to the school again for stealing.

The object of moral training of the normal youth is the inculcation of the love of righteousness. The young defective must get the habit of righteousness by long years of training.

Rousseau said in referring to the education of his time, "Do just the opposite of what has been done and you will do right." His advice seems to fit our period in regard to the treatment and training of the feeble-minded.

If anything can be done to train these persons to become more social in their behavior, and of more economic value to the country, to say nothing of adding happiness to their own lives, it is our duty, just as in treating bodily disease or defect, to use skilled methods that will obtain the best results.

The training should begin just as soon as it is found that the child is mentally deficient. The mother, if she has normal intelligence, usually knows quite early that her baby is not like other children. A baby of seven months should be able to balance its head, to turn its head towards a source of sound as bell or voice, to reach for objects, and to hold them when placed in the hand, and to oppose the thumb in grasping. The average child will do these things in six months. A normal child of one year sits and stands without support, tries to repeat or imitate syllables, imitates some simple movements, and recognizes objects. If at this age the child cannot sit, stand or balance its head, and will not grasp or hold objects, and does not turn its head when spoken to, it does not take a psychologist to diagnose the condition as extreme backwardness. When the mother goes to her family physician for advice, she fears but almost expects that he will tell her this. And it is not a kindness to say that probably the child will grow out of it in a few years. The mother of a mentally defective child has a big task ahead of her; and the sooner she knows of the defect the better; and as in the case of her normal child, she should not expect to do the work alone. After a certain period of home training, the school should take its place in helping to mould the young life. But until the time when the child can be under the care of specially trained teachers, the mother, guided intelligently by the doctor or nurse, should do her part, so that when the child reaches

adult life he will not be useless, or worse, a danger and a menace to the community.

When the little hands are flabby, they must be encouraged to hold objects, especially bright-colored objects that appeal to the eye. The muscles of the thigh and leg, that in a normal infant are made strong by kicking and squirming, must be encouraged to exercise by the mother, who trains and helps the little one to walk. When the child is listless, it should be given bright and attractive toys, and helped to play. The following is one of Dr. Seguin's methods of correcting faulty habits: After he has learned to walk, he will probably drag his feet. This habit can be partly or wholly overcome by having him walk over the rungs of a ladder, which is placed on the floor, the child stepping between the rungs. This will teach him to lift his feet; and, too, it will be a play for him. These first lessons are always discouraging to mother or teacher; but patience and an understanding of the little one's capacity will finally secure results that are sometimes wonderful. The mother should be made to realize that by teaching her child to dress himself, and to do simple tasks, instead of doing everything for him; and by demanding a willing and prompt obedience, she is making him less of a burden to her, and is beginning his moral training. Seguin says: "It is true that his habits are sad, droll or repulsive, that his doings are often worse than none; but these manifestations exhibit as much the carelessness and want of intelligence of the parents or keepers, as they do the primary character of the infirmity. Does not the idiot in making his silly gestures tacitly say, 'See what I am doing, if you knew how to teach me better and more, I would do it'."

In order to make the child think and reason, the special senses need training, as in developing the sense of touch. Let the child feel a hot object, then a cold one, or a wet object, and a dry, then a rough and smooth; doing this over and over until the contrasting sensations make an impression on the mind. In developing the sense of taste, the child is given that which is sweet, sour, salt and bitter until he has learned that there is a difference; although he should not be expected to express it in words until he has reached the mental age of seven years; but very early in life his brain should register a difference. In a similar manner the other senses are trained. In a normal child the sense development is natural; but the subnormal child has not that inherent capacity for development. It is through the hands performing some task, the eyes seeing objects and conveying impressions to the brain, and by various other sense impressions, that the child gets the habit of thinking.

Handwork is useful in training muscles that are unsteady, as in threading beads, sewing on paper and cloth, knitting and simple wood-work. Weaving has been found to be very useful in controlling the moods of children of unstable mental equilibrium. Indeed, a very considerable number of the feeble-minded lack balance. In weaving, the muscles all over the body are brought into play, mind and eye are kept busy; and very soon the one who is irritable and in a bad temper forgets his trouble, and is happily working. One girl in our home, whose muscular action is very poor, can weave, sweep, make beds, and do many kinds of work that require large motions; but she cannot thread a needle, and is just beginning to knit after three years of training. Although she has known for some time how to knit, the motions were too complex for her fingers. At first, in making baskets she broke all the spokes—now she is one of the best basket-makers in the home. She will never be capable of taking care of herself on account of her low mentality and unmoral tendencies; but when she is a little older, she could be almost self-supporting in an institution. At 13 years, with a mental age of seven, she came to us useless, quarrelsome, with an almost insane temper, and a nervous habit of staying awake and roaming about the house until late at night. Now she sleeps and works well, and her disposition is as good as that of the average child. We attribute the change in her condition to wholesome environment, and enough work and play to keep her healthy and happy. It sounds simple, and it has been more simple than the next case of a girl of lower mentality. This girl was fourteen when she was admitted; mental age $4\frac{1}{2}$ years, both parents mentally subnormal. She had low tastes, repulsive habits and negative disposition. At first to watch this poor low grade creature, one would feel sure that time and labor would be wasted if spent on such a specimen of humanity, and in that word we have the reason for our labor of love. She is a human being and she must be lifted up, if ever so little, from her state of ignorance and degradation. After a while we noticed that she had three good qualities, crude and undeveloped though they were—an affectionate nature, ambition and carefulness of her own belongings. These qualities were a big help in her training. She had very good muscular action, although her hands were untrained and useless. Work that included the coarser and larger movements was first begun, as dusting, weaving and simple basketry, then more complicated work as knitting, sewing, crocheting and more difficult housework, until now, after only $3\frac{1}{2}$ years of training, she has

become a useful member of the household, doing her work faithfully and well. Often she is found just quivering with happiness because she has accomplished something new, or she has learned how to do some work that she has been trying so hard for months to do, and we are amply paid for days of discouragement and seemingly hopeless work by hearing her delighted screams of "I'm learning! I'm learning!" She is still far from being an ideal child, and has many bad habits that it may be impossible for her to overcome. If back in her old environment, she would, no doubt, in a short time go back to her old manner of living. Her mental condition is not much higher than it was before, but the little intelligence that she has is in process of training, and bye and bye, if she is fortunate enough to remain in a training school, she will probably for many years contribute largely to her own support, and will be happy and contented. Otherwise we see nothing ahead but a life of misery, wretchedness and immorality.

There are many similar to these, who, although they form good habits of work and of living, have such low mentality, and are so unmoral, that they are not safe or useful when not under supervision. Not all children with a mental age as low as $4\frac{1}{2}$ or 5 years could be taught to be as useful as the above example, no matter how perfect the training; and some could be taught to be more useful and less disagreeable in their habits. Dr. Fernald, of the Massachusetts School for Feeble Minded, once assembled in a room 252 individuals with a mental age of eight years. He says of them: "The individuals in this group varied in physical age from 12 to 50 years. Some of them had learned to read, while others had not been able to do so; some were capable of elementary computations, while others found the simplest concept of numbers almost beyond their capacity. We had been able to develop some of them to become fairly expert mechanics; but others were able to do only the simplest sort of manual labor. Some were conscientious and relatively trustworthy; others were most untruthful, dishonest and unmoral. In some, sex proclivities seemed to be the dominant interest, while in others, the sex interest seemed to be normal. This variability shows that a measurable intellectual level is not the only factor in the study of the feeble-minded, and in the working out of the type of case, and training that they need."

If we should examine the brains of different persons of the same mental age, we would find that the lesions of the central nervous system, which cause the mental defect, vary as greatly as the be-

haviour characteristics of the group. And this from the teaching of Froebel: "The amount of development possible in any particular case, plainly depends on the original outfit, and partly on the opportunities there have been for exercise, and the use made of those opportunities. If we wish to develop the hand, we must exercise the hand; if we wish to develop the body, we must exercise the body; if we wish to develop the mind, we must exercise the mind; if we wish to develop the whole human being, we must exercise the whole human being. But only that exercise which is always in harmony with the nature of the thing, and which is always proportioned to the strength of the thing, produces true development."

The tendency to lead dissolute lives is especially noticeable in the high grade female. A feeble-minded girl has not sense enough to protect herself, and often by being bright and attractive, she is subjected to greater peril. It has been found that by keeping this type of girl under supervision, and training for ten or fifteen years, that is if the training is started very young, she will acquire such good moral and industrious habits, that in private homes where temptations are not too great, many will go on living useful and respectable lives. It is not so much that they have learned to distinguish right from wrong, for their will power and judgment are still very weak; but the habits of constant occupation and proper recreation have become fixed in the minds and lives of these girls, and their immoral tendencies, through disuse, are undeveloped.

The prospects are even brighter in the training of high grade boys. Nearly all who have been trained from childhood have been taught habits of industry and good behavior that will go with them through life. There are some mental defectives, however, on which years of training, even in an institution, have apparently little moral effect. This is the class that would come under the heading of "moral imbecile." In the Mental Deficiency Act of England the moral imbeciles are defined as "persons, who from an early age, display some permanent mental defect, coupled with strong vicious, or criminal propensities, on which punishment has had little or no deterrent effect."

Special classes should be organized in the public schools for the backward and feeble-minded, not only for their own benefit, but for the sake of the brighter pupils in the school. In order to teach backward children in a class, they naturally get more than their share of attention from the teacher, and that hinders the progress of the others. The backward pupils, themselves, in an ordin-

ary school, are not getting the training they need, for too much academic work is injurious to their weak minds. Their teaching must of necessity be very simple, and consist of reading, writing, nature study, language and numbers. It is worth while for them to go to school even though they can never learn to read and write, and for many it is only a waste of time to try to teach them these subjects, but it is no waste of time to teach them kindness and courtesy, personal cleanliness, physical training, music and hand-work.

Industrial training, besides being an educational factor of considerable importance, is a means of keeping their minds pure and their hands out of mischief, and of turning their energy to practical account. If it be possible they should be taught some definite occupation.

In many of our cities, we have Special Classes for the sub-normal, and the good that they are doing will far exceed their cost. Especially is this true of the very young, who will probably have 10 years or more of training.

We have heard of the wonderful work of the large number of auxiliary classes in Vancouver, where truancy is almost unknown. And we believe that in the years to come, that city will reap unheard of results, in the diminution of crime, and conservation of labor.

By humane and just treatment of an unfortunate and neglected class, who have sinned against themselves and the community because they were not taught the better way, the country will only exhibit a little of the wisdom that has been handed down to us from Solomon: "Righteousness exalteth a nation, but sin is a reproach to any people."

Soil Pollution*

BY F. A. DALLYN, TORONTO.

Read at the Ontario Health Officers' Association Convention, in Toronto, on May 29th and 30th, 1922.

DISCUSSIONS of soil pollution are generally limited to those types of pollution, which might have some relation to the spread of intestinal infections. Pollution of this character mainly arises from the solution or the distribution of faecal matter, introduced into the various types of privies and septic tank methods of sewage disposal. That such wastes have been popularly accepted as a source of danger is evident from the fact that there is considerable legislation on the Statute books relating to the rights of local councils of municipalities to pass by-laws:

- (1) For regulating the construction of cellars, sinks, cesspools, water closets, earth closets, privies and privy vaults; for requiring and regulating the manner of the draining, cleaning and clearing and disposing of the contents of them.
- (2) For requiring the use, within the municipality or a defined area of it, of dry earth closets.
- (3) For providing that the cleaning and disposing of the contents of cesspools, water closets, earth closets, privies and privy vaults shall be done exclusively by the corporation.
- (4) For requiring and regulating the filling up, draining, cleaning, clearing of any grounds, yards and vacant lots and the altering, relaying or repairing of private drains.
- (5) For requiring owners, lessees and occupants of land in the municipality or any defined area of it to close or fill up water closets, privies, privy vaults, wells or cesspools, the continuance of which may, in the opinion of the Council or Medical Health Office, be dangerous to health.
- (6) For establishing, protecting, regulating and cleaning public and private wells, reservoirs and other public and private conveniences for the supply of water; for prohibiting the fouling of them, or the wasting of the water, and for procuring an

*"Investigation on Soil Pollution and the Relation of the Various Types of Privies to the Spread of Intestinal Infections." October 10, 1921, the Rockefeller Institute for Medical Research.

analysis of such water, and providing for the payment of the expenses thereof, and for making reasonable charges for the use of the public water.

- (7) For the closing or filling up of public or private wells.
- (8) For compelling the use within the municipality or any defined area therein, for drinking and domestic purposes of water supplied from the waterworks of the municipality or of a waterworks company; and for prohibiting the use within the municipality or such area of spring or well water for such purposes.

In addition to the diverse complaints which are popularly conceived to arise directly from soil pollution, there is the direct danger resulting from the use of polluted well supplies.

Without discussing the question for the moment as to how this polluting matter obtains access to the drinking water supply or the well, it is interesting to note that the legislation referred to contains numerous references which specifically relate to the control by the Council of a municipality of the public and private water supplies for drinking and domestic purposes within the municipality.

Despite the fact that the legislation is quite comprehensive on this subject, there appears to be little or no advantage taken in many municipalities of the fact, although the private well supplies frequently are seriously polluted.

Whether there is a general agreement or not as to the presence or absence of serious soil pollution in the vicinity of earth closets, privies and privy vaults and sink holes for wash water, there could be no question but what close proximity of such structures to private wells is wholly undesirable. Within the last three years, the Board has, through the Sanitary Engineering Department, conducted a number of sanitary surveys and has depicted on maps which have been arranged in the lobby for your information the conditions found to be existing in the various municipalities examined. These surveys reveal the fact that pretty nearly 80 per cent. of the private wells in the urban or semi-urban areas are seriously polluted. We may not all agree as to the source of this pollution, nor even as to the actual danger from the presence of this pollution; one must, however, admit the fact that the pollution is there, and in quantities that if not dangerous are at least rather nauseating.

The question is frequently advanced that if this pollution constituted danger, why do we not have more typhoid and enteric fevers from the use of this water. There are numerous explanations for this phenomena; the most obvious, of course, being that the discharge of persons suffering from these diseases has never had access to the well supply. Another is, and possibly the most common explanation, that there has been a great deal of such disorders unrecognized as coming from the use of such water, and that in view of the confined number of persons affected, a certain immunity has been developed.

One very frequently hears that so-and-so on going to the country is very much affected by the water supply, whereas the local people using the water feel no such effects. A further explanation is that much of the pollution is of animal origin, and that animals do not transmit such diseases as typhoid fever. This is especially true in the country.

The research work that has been done in connection with the longevity of pathogenic organisms, also, tends to throw some light on the subject and suggests that one of the reasons why more disease is not directly traceable to well supplies is owing to the fact that pathogenic organisms outside the human habitat are extremely short lived and in consequence the storage of water, either in the ground or in a well itself has some controlling influence. Sir Alex. Houston, one of the recognized authorities in the Old Land used to say that even in connection with the use of the River Thames, if he were aware of typhoid outbreaks accompanying its use, he would be prone to look very close to the intake for the special source of pollution occasioning the epidemic; and I think it may be accepted as a criticism that Public Health Officers to-day are possibly inclined to look a little too far afield for the immediate cause of some of the intestinal outbreaks under their observation. The effect of storage which is probably the greatest factor in the control of soil pollution and one that could be taken more advantage of has been recently somewhat illuminated by studies in the behaviour of different types of bacteria in soils having a different hydrogen ion concentration.

There has been a great deal of information advanced by laboratories during the past ten or fifteen years, on the subject, storage and longevity of pathogenic organisms, commencing with the investigation that was carried on in connection with the Chicago drainage canal and including that done by Sir Alex. Houston and

the Metropolitan Water Board of London, Eng., the findings of which were somewhat at variance.

The effect of the hydrogen ion concentration which has been only recently observed and only been discussed in literature within the last two years, may be the explanation which will assist in correlating the various bits of research that have been carried on in widely scattered centres. It has been shown, for instance, that our natural waters vary in hydrogen ion concentration, from an Hp. value of about 4 to an Hp. value in excess of 8. It has, also, been shown and referred to in the Monograph, Number 15, of the Rockefeller Institute, page 25, that the viability of typhoid and dysentery bacilli are markedly affected by the Hp. value of the soil, in which it is attempted to cultivate them.

The effect of a low Hp. value was such as to reduce within 24 hours the initial numbers by approximately 90 per cent., whereas the higher values up to 7.6 did not show an appreciable effect within six to ten days. At 8.6 and over, the bacilli in another group of experiments died out rapidly and were recovered only on the fifth and third day, the discrepancies, therefore, between the work reported on in the earlier efforts may be accounted for by some factor such as the hydrogen ion concentration, which apparently is of considerable moment. The hydrogen ion concentration which has quite a terrifying sound to many of us, is the measure of the acidity or alkalinity of a material in terms of its reaction on certain dyes and a buffer salt. A hydrogen concentration of (7) is a neutral solution. Above (7) the solution is alkaline and numbers below (7) would indicate that the solution has an acid reaction according to this method of determination. Many of our cultural medias are now being prepared and checked by the hydrogen ion concentration tests. This is a much safer method than that hitherto adopted.

Aside from the direct effect of the longevity factor and of the hydrogen ion concentration, you have the benefit of these two on retarding the penetration of the organisms in the soil. You can readily perceive, therefore, that soil pollution is not an accumulative thing and that the controlling factors tend to limit the penetration or the distance which polluting organisms may travel from any real source of danger after finally reaching the soil. Quoting from the work of Mr. I. J. Kligler, "The seepage into the soil from septic pits,"—Pit A was located in hard, clay soil with a water table about 30 feet below the surface. As in the case in the dry pits the only pollution that could be detected was that due to soakage, owing no doubt to its long continued use and the large amount

of water present in the hole. The pollution was found at a point 5 feet away from the pit, whereas in dry pits it extended only 3 feet. Pit B, on the other hand, although the same type of hard, clay soil was immediately above a sandstone ledge, which was only 3 feet below the surface and which created a water table at that level. This water table although apparently static was evidently connected with the drilled pump and contributed a constant stream of pollution to the well. By actual soil tests it was possible to trace the pollution a distance of 18 feet from the pit. Whenever a stratum of sandstone was struck in boring the soil, the sample was found to be polluted. The course of the seepage was unmistakable. Of the three types of soil studied, the clay soil shows a relatively smaller number of polluted samples than either of the other two, and the sandy soil the greatest number. Of some 17 pits studied in sand, 9 of them showed pollution five or more feet from the pit; Six showed the absence of pollution five feet from the pit. In sandy clay, 9 showed an absence at five feet, out of the fifteen examined. And in the clay 8 showed an absence out of eleven examined, at five feet.

The report goes on to show that certain workers,—Firth and Horlocks were unable to wash *bacillus typhosus* from two feet of compact soil with rain at an intensity of 3.5 inches per hour, falling for five hours. Certain other types of bacteria, however, such as *bacillus prodigiosus* were shown by Elba and co-workers to be washed through two to three metres of soil. The general conclusion of I. J. Kligler, was that water could carry bacteria through two feet of soil, but not through three feet. This conclusion, however, does not agree with some of the direct observations in the field, which would indicate that pump drippings near a well can readily carry *B. Coli* down a considerable depth, so that driven wells 14 to 15 feet deep frequently show gross pollution. The observation that the bacteria will readily penetrate two to three feet in the soil as a result of soakage, would indicate that curbing around dug wells is not satisfactory unless carried down by means of vitrified pipe for at least five feet. It is interesting to note that in the summary of the investigations, the author reports that the subsoil below two feet is generally free from contamination, but that during the rainy season the pollution may extend downward about five feet. This is, also, borne out by several contributions in the discussion of the paper. All this points to the fact that septic tanks or septic pits which are kept well above the water table will not probably pollute the adjoining wells, but as soon as the water table is

reached the pollution may travel a considerable distance. This latter observation is of particular moment to the Medical Officer of Health, in view of the fact that despite regulations to the contrary, a few persons will take advantage of disused wells for the disposal of waste water from their sanitary fixtures. How far such pollution will travel is unknown. I understand that the municipal wells at Listowel, were affected from such a source and the contamination did not lessen until the practice was discovered and corrected.

Therefore, studies of soil pollution suggest that there is no real danger from it other than that which would influence some adjoining well supply. They also, indicate or suggest that where a municipality is disposing of considerable amounts of water from flush closets that the use of private wells should be prohibited and that the municipal supply should be improved so that there would be no tendency on the part of the property-owners to retain their wells in order to get clear, cold water.

Social Hygiene in British Columbia

INTEREST IN SOCIAL HYGIENE INCREASES—THE VANCOUVER ISLAND COUNCIL PLANNING EXTENSIVE PROGRAMME.

THE following brief report is reprinted from the Victoria Times of August 5th. The progress shown by the British Columbia Social Hygiene Council should be of interest to other Social Hygiene Councils throughout Canada.

Encouraging reports of steady progress were received at a recent meeting of the executive committee of the Island Council, held under the presidency of Dr. Thomas Miller.

Some fifteen public meetings have been addressed in and around Victoria during the past four months, which has resulted in wider interest in the work. There had been also a large number of conferences with selected groups, which have been going on quietly for some time, with a view to beginning a vigorous campaign during the coming autumn in order to bring the serious consideration of the questions involved in this problem to all sections of the community. As one result of these preliminary discussions certain organizations have undertaken a series of group meetings suitable for men and for women, and for younger men and for younger women. Apart from such general meetings as may be called for, it is intended to work mainly through this group system of smaller gatherings.

Two cartoon exhibits, dealing with the proper methods of health and care of the body, and illustrating wise methods of teaching elder boys and girls, have been secured. These should be of great value in the educational work, and especially for parents' conferences. Sixteen meetings have already been arranged for September and October in the city and vicinity, and others are pending. Everything seemed to point to a season of prolonged activity, and much greater interest was being shown in the work of the council.

Beginning in October, the Council will hold monthly meetings (to discuss various aspects of the question), which will be open to the public. The dates of these meetings will be advertised in the press, and it is hoped that those interested in the work will attend.

Measures were taken for spreading more widely a knowledge of the dangers, and of the only right methods of cure, as well as of

the means of free treatment afforded by the Government dispensary in Victoria and in Vancouver.

Arrangements have been made for an active forward movement in Nanaimo through a local committee, and the Cowichan Health Centre Committee will act as the agent of the council there.

Reports were received of the work of the Provincial Council showing the extension of the work in the interior of the Province, and of the annual meeting of the Canadian National Council recently held in St. John, which showed steady growth throughout Canada. At the latter meeting, British Columbia was commended for the soundness of its educational work, and for the financial support given by its Government for the prosecution of the campaign.

The demand for literature still continues to be heavy, and it has been found necessary to reprint several of the pamphlets for the third time. In addition some new pamphlets are being prepared for distribution. The secretary, Rev. H. T. Archbold, 434 Quebec Street, city, will be glad to send copies of all literature issued by the council to those who ask for it, as well as to answer any enquiries addressed to him. He will be glad to arrange meetings, or to have addresses given on social hygiene, on request.

Social Investigation and Follow Up in Venereal Diseases Cases

BY DR. GORDON BATES, *General Secretary, Canadian National Council for Combating Venereal Diseases.*

THIS particular aspect of the venereal disease question is very important. In this public health problem more than in any other like problem with which we are faced social factors are at work—factors whose operation we must understand if we are to organize properly to defend ourselves against a menace which, unchecked, threatens to destroy civilization itself. True, for several years now we have heard statistics quoted as to the tremendous cost in human wastage involved in the widespread existence of venereal disease throughout the world. The Insane Asylum, the hospital, the institution for the blind, the poorhouse, the reformatory and the divorce court all supply eloquent evidence of the futility of attempting to cope with the situation by trying to repair the damage due to venereal disease after it has occurred. Among legislators and citizens at large only a few realize even this. Few of us, indeed, understand anything of the complex social factors which are involved in creating an appalling condition of affairs.

In spite of general lack of public information we have made progress. In various countries we have done the thing which obviously should be done first, we have at least recognized the existence of widespread and dangerous disease and have provided facilities for treatment. Government grants in various countries have made it possible to establish clinics. There has been considerable propaganda. As a result thousands of infected persons have come forward for treatment and unquestionably many deaths and serious disabling end results. have been prevented.

Nevertheless, only the fringe of the question has been touched. Only a fraction of the existing cases have been brought under treatment. Hundreds of thousands of new cases are being infected yearly and tremendous damage results and still our understanding of the fundamentals involved is limited. Perhaps, a few workers in clinics and hospitals feel that they have some vision of the reforms medical, educational and social which are necessary for the

future, but even they are hampered in their action by the lack of information available as to the underlying causes of it all.

Nor are all the efforts possible being made to bring existing cases under treatment. One person suffering from venereal disease applying to a physician of a clinic for treatment means another person from whom the disease was contracted. Again a single prostitute suffering from gonorrhoea or syphilis may have infected many patrons before she realized the seriousness of her condition. The married man coming up for treatment may have infected his wife and children, often in ignorance of his own infection. All of these sources or contacts at large mean the possibility of serious end results for the infected individual, blindness, perhaps—or apoplexy—or insanity or any of the serious mishaps which sooner or later are likely to be the lot of the unfortunate infected with the germs of gonorrhoea or syphilis. Besides each is a definite focus whence other new cases may arise. The infected patron of the prostitute carries the infection to another woman or he marries and infects his wife and hence his children. One child may infect another, or in a children's hospital many other children—and so the endless chain goes on—each infected person a link unless his or her infection is destroyed.

It is true, as I have suggested, that information on the subject is more general. Propaganda has meant that persons with obvious symptoms have tended to realize the seriousness of their state and apply for treatment. Persons who have exposed themselves by immoral conduct and who have suspicious symptoms also may apply for treatment—not all, because many are foolish and careless.

Others there are whom propaganda does not touch—the thousands who are unaware of their infection because they have had no symptoms—or who being aware suppose that they are cured. The child with a hidden syphilis rapidly developing into an interstitial keratitis; the immoral man and woman spreading infection but innocent of knowledge of the fact that they are spreading it. The man in middle age without symptoms suffering from syphilis which sooner or later will kill him and rob the community of a useful citizen, serenely unaware of his condition because it has never caused obvious symptoms.

Each of these constitutes a definite type requiring to be approached by means of special machinery if it is to be brought under treatment. Doubtless good propaganda if persisted in long enough and strenuously enough will result in the establishment some day of routine medical examination for the whole population. Then all

of these cases will be discovered,—while the institution of medical examination before marriage—a very necessary procedure, the institution of which only awaits the rousing of public opinion—will mean the prevention of the many infections of women and children which come through marriage. Until such reforms come to pass, however, we must rely on increasing the efficiency of our present methods.

The close questioning of each venereal patient as to the source of his or her infection and as to the persons to whom the infection may have been passed on is essential. The information so obtained should be utilized in an effort to bring all contacts under observation and all infected persons so discovered under treatment. This means a co-operative scheme in which the physician, the social worker and the health department work together. If legislation exists which will assist them so much the better. The careful taking of social histories on each venereal case, the searching out of all sources of infection and contacts would, in itself, mean a rapid multiplication of cases under treatment. If records are preserved and statistics compiled from them we have a tabulation of conditions in the community which should be of infinite value in persuading legislators and the public generally of the necessity for spending public monies, to prevent disease.

At the All-American Conference on Venereal Diseases held in Washington, in December, 1920, the following series of uses for the venereal disease social case sheet were indicated:—

- (a) Follow-up work.
- (b) Tracing sources of infection.
- (c) Tracing contacts.
- (d) Estimating the value of educational methods in vogue as part of a local campaign.
- (e) Demonstrating economic loss to various industrial and other units in the community.
- (f) Demonstrating the social needs of the community, e.g., recreational needs, the necessity for an adequate supply of supervised boarding houses, poor industrial conditions, etc.
- (g) Demonstrating distribution of infection.
- (h) Demonstrating type of prostitution, extent of solicitation, etc.
- (i) Demonstrating medical and social results of venereal disease.

One might easily quote cases which would illustrate each of these uses. The following social case histories chosen at random are of interest.

Case 1.—Illustrates the possibility of tracing a source of infection.

H. M., male, aged 30, suffering from gonorrhoea, separated from his wife, was infected by a fellow employee, Mrs. O. He gives the examining physician her name and address which is recorded on the social history. The name and address are forwarded to the local health department. Three weeks afterwards we are notified by the health department that this women has been located and is now being treated by her private physician.

Case 2.—A similar case.

D. B., male, is suffering from syphilis. He is 25 years of age. His first exposure was at the age of 17 and there have been many exposures since. His training in sex matters, on the part of home, school or church, is nil. He was infected by E. H., age 30, to whom he was introduced and to whom he paid \$2.00. He gives her address. This girl was also reported to the health department and came in to the clinic for treatment.

Case 3.

Mrs. J. L. This woman married, aged 37, was not aware of her infection. One of her children was brought to the Hospital for Sick Children suffering from a syphilitic condition. A social history was taken and the case investigated, with the result that two more children in the family were examined and brought in to the Hospital for Sick Children for treatment. In this family three children have syphilis. Three are dead and two are apparently normal. The father and mother, were on investigation, both found to be suffering from syphilis and are now under treatment.

Case 4.

A. W., male, aged 21, suffering from syphilis, reports, Miss M. H., aged 17, a worker in a candy factory, whom he picked up in a park, as the source of his infection. This girl's name and address are given to the health department and in a few days she comes to the clinic for examination. She in her turn reports F. R. as the source of her infection. This man is also traced, found to be suffering from a venereal infection and is also placed under treatment.

The following two cases are illustrative of the amount of damage which may be done by venereal disease:

Case 5.

A young woman, aged twenty-one, came to Toronto General Hospital Clinic suffering from congenital syphilis (syphilis from birth). The following is the history of her family:—

Father died of heart trouble (probably syphilitic).

Mother's marital history was as follows:—

1st pregnancy—Boy, died aged 6½ months.

2nd pregnancy—premature, died.

3rd pregnancy—Miscarriage, 3½ months.

4th pregnancy—Premature, died.

5th pregnancy—Boy, died aged 5½ months.

6th pregnancy—Premature, 8½ months.

7th pregnancy—Born alive, died aged 5½ months.

8th pregnancy—Born alive, now aged 25 years and married.

Has had six children, 3 of whom are dead.

9th pregnancy—Boy, died at 18 years—anaemia and congenital syphilis.

10th pregnancy—Alive, has congenital syphilis.

11th pregnancy—Died aged 10 months of measles (?)

12th pregnancy—Born alive, lived one day.

It is the opinion of the clinic staff of Toronto General Hospital that all these deaths were caused by syphilis.

Father's sisters:—One had 18 children of whom five are living;

One had 9 children of whom one lived;

One had 15 children of whom 3 lived.

This family, or what is left of it, is being dealt with.

Case 6.

In the City of Brantford, a man applied to the city for relief. He was found to be suffering from rheumatism and a blood test was done which proved that he had syphilis. This man was placed under the Act and his family investigated with the following result:—

The eldest child was deaf and partially blind.

The second child was dumb.

The third child had a long bone syphilitic infection.

The fourth child was mentally backward.

The fifth child was an idiot.

The sixth child, now 13 months of age, looks normal.

The man and all of the children have syphilis and 4 plus positive Wassermanns. They were all placed under treatment.

The last case is illustrative in a remarkable way of the method by which careful case history work and co-operation between the

various agencies concerned may result in gathering infected individuals into the public health net.

Case 7.

In a clinic in the City of Toronto a man acting under the instructions of the Medical Officer of Health reported for examination and was found to have syphilis. He was asked how the Medical Officer of Health knew that he was suffering from syphilis and replied that he did not know and that he was unaware of his condition, himself, until examination in the clinic. This man after careful questioning denied any possibility of having been infected. He later acknowledged that his first wife had died in the asylum of syphilitic insanity.

On being questioned as to illicit contact he acknowledged one contact some months previous to the death of his first wife. This, however, had not been followed by any symptoms. His wife shortly after this had given birth to a child which had peculiar symptoms (probably syphilis) and shortly afterwards she, herself, went to the asylum where six months later she died of general paralysis of the insane. This explained the probable avenue of infection, the man having evidently contracted syphilis and brought it home to his wife, who in turn passed it on to their child.

On calling up the Local and Provincial Health Departments an explanation of the machinery by which this case was brought under control was obtained. The Provincial Health Department make a practice of taking complete social histories of all cases of syphilis discovered in asylums. This man's first wife having a living husband, it was presumed that he had syphilis. A notification to this effect was sent to the Local Health Department, who in turn, notified the husband that he must report for examination. The clinic have in their turn by taking a careful social history and utilizing the services of their social worker brought in the child and also the second wife, to whom it was discovered the man had been married in the meantime.

This case provides a good example of the method by which legislation may be utilized and is also an example of the value of the social worker and social case taking methods.

In this paper no attempt has been made to go into various other matters of importance, information about which may be readily gathered by the careful use of the social case sheet. One cannot but be impressed in many cases by the fact that inadequate opportunity and poor training bear an important role in the spread of venereal disease. The average clinic patient leaves school early—

reason, to seek work. His training in sex matters is in almost every case principally notable for its absence. The social surroundings of the patient have been generally, perhaps I should say, always, conducive to immorality.

Until the presence of such factors is generally recognized and until we make an organized effort to correct the social deficiencies which examination of individual cases makes more than evident, we are not likely to really succeed in controlling venereal diseases. Only by careful social investigation and follow-up can we hope, under present conditions, to begin to control the existing situation and only by such means can we understand the causes which make for the spread of venereal diseases, and hence the action which the community should take to prevent their spread.

The trained social worker is more than an asset in the well organized venereal disease clinic. She is a necessity.

That does not mean, however, that the official social worker should be the only social investigator in the clinic. The physician with his medical training is able to grasp the significance of medical factors more quickly than the social worker and his peculiar ability in this direction should be utilized for social purposes. Too often the physician of the past has been a trained individualist, both as regards himself and his patient—seeing only the case before him and his own interests. The physician of to-day and the future must realize the community significance of his case and not only attempt to cure this case, but take any step which will tend to cut down the total number of such cases in the community. Especially in the venereal disease clinic the physician must be a social worker as well. With his realization of his responsibilities in this direction we may well find ourselves on the fringe of a millenium of health.

The Castine Summer School for Rural Leaders

BY JEAN BROWNE, *Director, Canadian Junior Red Cross.*

CASTINE is a beautiful little town on the east of Penobscot Bay, approximately at the middle of the coast line of Maine. One reaches it by way of steamer from Rockland. This two-hour boat trip reveals a series of small islands, some of them popular summer resorts, and a fascinating coast line.

Castine has its old traditions and its history. The original name was "Pentagöet. It was first settled by French traders under La Tour in 1614. In 1629 it was occupied by the English from the Plymouth Colony under Isaac Allerton. From this date on, it changed hands frequently, belonging at various times to the French, English and Dutch. It takes its name from Baron de Castine, a French general who held possession of it for France between 1680 and 1692. It again came into historical prominence in the War of 1812, when the British took peaceful possession of it and built Fort George, the earthworks of which still remain. The canal at the north, which really makes Castine an island, was constructed by the British in 1814, presumably to prevent desertions from the garrison, and this canal still remains, although it is not used. At the present time, Castine is a quiet dignified little town with long shady streets and large white houses with green shutters. One is told of wonderful old carved staircases within these homes, and of rare mahogany furniture brought from old England. Every home has its old-fashioned garden, and beautifully kept grounds.

The Castine State Normal School was founded in 1872. For the last three years a very interesting summer school experiment has been worked out in it, by means of which a system of "helping teachers" for rural schools has been evolved. The superintendents submit names of their most promising teachers to the State Superintendent, and a group varying in number from fifty to a hundred are selected by him and are sent in to take the six weeks' summer course at Castine. Each teacher thus chosen must have had regular Normal School training. All expenses of the students taking the course are paid by the State Department of Education.

When these teachers return to their rural schools, they teach from Tuesday till Saturday, thus giving neighbouring teachers an opportunity to visit their schools on Saturdays. On Mondays, the "helping teachers" visit other schools in their vicinity, to help the local teachers with their problems. Besides this, they are expected to become real leaders in their respective communities, and their special course of instruction is directed toward this end. When the "helping teacher" completes a successful year's work, a bonus of 25 per cent. of her salary is paid her by the State.

This year an innovation was made by including some twenty school nurses for a two weeks' period. The teachers and nurses took exactly the same work and the combination seemed to be quite mutually helpful. This course was made possible through the courtesy of Dr. Thomas, the State Superintendent of Schools, and the efforts of Miss Charlotte Simon, Red Cross Supervisor of Nursing Services for Maine.

The Unit plan is followed, a half day being devoted to one subject for a week at a time. Courses are given in such subjects as "Country Life Problems," "Newer Movements in Education," "Community Problems and the Community Survey," "Consolidation and Rural School Organization," "Rural School Standards," "Rural School Curriculum," "Medical Pedagogy," "Physical Education," and "Music."

It would be interesting, I think, to describe one day at Castine. The students assemble at 8.25, when the day is formally opened by the singing of the National Anthem, a scripture reading and the Lord's prayer. The following half hour is spent in community singing. On this particular day, Miss Emily Hoag, of the Federal Department of Agriculture, Washington, took the class, in a lecture for forty minutes, taking as her theme, "Is it Worth While to Devote One's Life to a Rural Community?" The class then broke up into four groups, each group having as leader some member of the Faculty. The task allotted by Miss Hoag was for each student to draw a map of a farm and make an economic survey of it, as a model way of developing this later with pupils in the rural schools. The number of acres given over to raising various grains, potatoes, pasture lands, orchard and garden was noted in this survey, and the total yield from each of the fields. For the work of this particular class, it was largely a matter of the imagination; for the child in the rural school, it would be a matter of fact, and very accurate at that. The idea is, then, by collecting the maps of individual farms, to work out a community map and to make a sum-

mary of community economic conditions, with the idea of later on making a township map from the community maps. This seems an ideal way of linking up the life of the rural school with the life of the homes and making the young citizens in the rural school intelligent concerning their own community problems.

Work of this sort attaches a dignity and importance to the work of the farm that are too often lacking in the minds of the young people.

In the afternoon, the Director of Junior Red Cross for Canada, opened up the subject of "Medical Pedagogy" in a forty-minute lecture. The class then divided into the same four groups for Round Table Conferences, bringing back their questions and problems to the lecturer for discussion for the last twenty minutes of the hour and a half period. This course was conducted each afternoon for one week.

After a short intermission following the work of Medical Pedagogy, the class took physical education work on the grounds for one hour. The time was almost equally divided between setting up exercises and games.

It is interesting to note that at the outset of this course, the students were each given a physical examination, and the intelligence tests.

Life at the Normal School Residence is rather noteworthy. The residence itself is a beautiful building overlooking the bay. The Matron and members of the Normal School staff extend the most delightful hospitality to the students. There is perfect order, but no outward signs of discipline or restraint, and the happy atmosphere that prevails no doubt has its distinct educational value. Delightful social outings are planned for the week-ends, most popular among these being a day's sail in the bay and a clam bake.

It would certainly be admirable if these community leaders could bring back to their rural schools much of the graciousness that exists not only in the residence, but throughout the whole institution.

To one who looks closely into the Castine experiment, it would appear that at last a really practical and earnest effort is being made to put into effect a great deal we have heard in a vague way during the last ten years or more from one public platform after another regarding the improvement of rural schools.

The Tuberculosis Services of the Massachusetts-Halifax Health Commission

JUNE 30, 1921—JULY 1, 1922.

(At the request of the Canadian Tuberculosis Association, a full report of the Tuberculosis work of the Commission for the past year has recently been made. It is printed here in practically its original form with the hope that it may contain much material of interest to the readers of the PUBLIC HEALTH JOURNAL).

THE Tuberculosis Service of the Massachusetts-Halifax Health Commission is largely predicated on public health education. It consists for the most part of an ambulatory clinic service; a diagnostic service with an expert available to consult with physicians in private practice; a teaching service loaned to Dalhousie University; a medical service loaned to the City Tuberculosis Hospital; a home instruction service, conducted by skilled public health nurses and visiting housekeepers, both under the guidance of medical officers; active co-operation with the Anti-Tuberculosis League; and a routing agency for admission to Sanatoria, Hospitals and Nutrition classes in the public schools.

Six weekly clinics are conducted under the supervision of Dr. T. M. Sieniewicz, Tuberculosis Examiner, who gives his full time to the work of the Commission. Associated with Dr. Sieniewicz is Dr. H. G. Grant. Two clinics are conducted at Health Centre No. 1, Gottingen Street, on Tuesday and Saturday from 3 to 5 p.m., two at the Halifax Dispensary, 31 Brunswick Street, on Monday and Friday from 3 to 5 p.m.; one at Health Centre No. 2, Dartmouth on Wednesday from 3 to 5 p.m., and one at a branch health centre at Tuft's Cove on Saturday from 9.30 to 11.30 a.m. This clinic service, at first furnished to citizens affected by the explosion, has since been extended to any worthy citizen of Halifax city or county.

Besides having general direction of the ambulatory clinics Dr. Sieniewicz serves as a consultant to physicians for the purpose of establishing or ruling out the diagnosis of tuberculosis in any patient, where an invitation to make the examination has been extended by the doctor in attendance. This consulting service is operated on a basis very much like that of Bartlett's in Framingham, Mass., and is bringing good results. By an amicable arrangement

with the city, Dr. Sieniewicz has been named as attending tuberculosis expert to the City Tuberculosis Hospital and his services are loaned by the Commission for certain morning hours. This new hospital, with fifty beds, was erected in close proximity to the Medical School, and is proving an invaluable aid to the medical student in his study of tuberculosis. Abundant clinical and much pathological material is made available as would be expected in a hospital largely used for terminal stages of the disease, and for occasional acute cases.

Dr. Sieniewicz delivers a series of ten lectures in the course of Public Health Nursing, conducted under university auspices, and gives another series of sixty lectures to the Third and Fourth Year Medical students of Dalhousie University. He also gives bed-side instruction in the City Tuberculosis Hospital to groups of these students.

Lectures were given by the Tuberculosis Examiner to ninety students in the Normal class at Mount Saint Vincent Academy on "What Teachers Should Know of Signs, Symptoms, Prevalence and Curability of Tuberculosis," and on "What Teachers Should Know of the Prevention of Tuberculosis." The services of the Tuberculosis Examiner as a lecturer are available, free, to any club or society. In June of this year he delivered an address at the Public Health Congress, St. John, on "The Prevention of Tuberculosis as Applied to School Age." In April his services were loaned to the Anti-Tuberculosis Association of that city to assist them in their Case-finding Campaign.

The home teaching service in tuberculous families is carried on as a part of our general public health nursing programme. A public health nurse is present at every tuberculosis clinic. The member of the staff in attendance dictates examination findings which are charted by the nurse. She makes a note of the special advice or treatment that he wishes carried out. All home contacts are given a complete examination for tuberculosis. Home contacts of children of pre-school age are routed through the Commission's pre-school age Dental, Ear, Nose and Throat, and Nutrition services; while school age or older "contacts" are referred to the School Dentist or Dispensary Dental Clinic, and to appropriate clinics for medical and nursing guidance. The Clinic and the Tuberculosis Examiner serve as a routing agency for nearly all patients going to the Provincial Sanatorium at Kentville, and as the routing agency for practically all admissions to the City Tuberculosis Hospital.

The Massachusetts-Halifax Health Commission maintains close co-operation with the Anti-Tuberculosis League. Where field nurses find families necessitous, or nearly so, and where it is not possible for the family to secure the amount of milk required for contact, especially in the cases of young children and babies, the League, very generously, on request of the Chief Nurse of the Commission, contributes the needful amount of milk for such time as is considered desirable.

During the summer of 1921 the League undertook the support of twenty-five children in an open-air camp on the grounds of Health Centre No. 1. Those admitted included those children from seven to ten per cent. or more under-nourished, and, for the most part known to have been exposed to open tuberculosis. This camp was a complete success, and a full account of its operation is contained in the League's Report.

In the Commission's clinic services at Health Centres Nos. 1 and 2, Nutrition classes are maintained, so that all children visibly under-nourished, or under-nourished according to the standard measurements, are especially guided by the nutrition expert and visiting housekeepers in charge of these clinics. In the home, the work of the public health nurse is supplemented by the visiting housekeeper, who visits those homes where nutrition problems are paramount, often giving kitchen demonstrations or going with the housewife to market or store.

The Halifax School Board have facilitated the work of the Commission by making provision for as many of the under-nourished of tuberculosis families attending school, as they can maintain in open-air classes, where they are given the advantage of open-window rooms, and where school lunches are provided.

Beginning with the first of July, 1922, the clinics under the Commission's direction had 322 persons under supervision. During the year, an additional registration of 422 took place. A total of 744 persons were under the supervision of the clinics. During the same interval the Tuberculosis Examiner saw in consultation with physicians in private practice 148 persons, performed 20 operations for thoracentesis, and 19 for pneumothorax. During the year, 34 patients were routed to Kentville Sanatorium, 27 to the City Tuberculosis Hospital in Halifax, and 4 to other institutions. Perhaps the most effective part of the service, however, was that carried on by the instruction visits of the public health nurses. Four thousand two hundred and sixty-one instruction visits were made to the homes of families where tuberculosis existed, or was suspected.

In all of these visits, the nurses gave attention to the various members of the family and to righting those environmental conditions harmful to health. Two hundred and thirty-three separate clinics were conducted, all convenient of access to the necessitous.

By arrangement with the Provincial Laboratory, the Massachusetts-Halifax Health Commission provides a full-time appointee, skilled in pathological and bacteriological work, a trained technician and part-time of a laboratory deener. Blood of persons attending the chest clinics for the greater part of the year, were examined with the Wassermann test. Samples of sputum forwarded from the clinics to the Laboratory are studied in the usual way, the report being made to the chief of the clinic. Two hundred and seventy-three sputums were examined under the microscope and 269 bloods were studied for the Wassermann test.



The Provincial Board of Health of Ontario

COMMUNICABLE DISEASES REPORTED FOR THE MONTH OF JULY, 1922.

COMPARATIVE TABLE.

Diseases.	July, 1922		July, 1921	
	Cases.	Deaths.	Cases.	Deaths
Smallpox	40	0	104	1
Scarlet Fever	157	5	101	3
Diphtheria	159	17	285	19
Measles	890	7	223	3
Whooping Cough	79	3	227	7
Typhoid	92	7	44	8
Tuberculosis	144	101	165	121
Infantile Paralysis	3	0	3	0
Cerebro - Spinal Meningitis	6	5	4	4
Influenza	—	4	—	2
Pneumonia	—	85	—	114

VENEREAL DISEASES REPORTED FOR JULY, 1922

	1922.	1921
	Cases.	Cases.
Syphilis	143	159
Gonorrhoea	121	204
Chancroid	3	4

The reports received of communicable diseases from local boards of health for the month of July show smallpox and diphtheria cases are much fewer than in the corresponding month of 1921, while scarlet fever and typhoid fever show an increase over that of last year, as may be seen in the comparative table.

The increase in typhoid fever cases is largely due to an outbreak in the Town of Hawkesbury, where some 58 cases are reported; Carleton Place also reported 21 cases, but apart from these outbreaks the Province is exceptionally free from the disease, as only 13 more cases are reported for the whole Province.

The epidemic of measles which some of our cities experienced in the last few months is abating, as only 890 cases were reported against 2,100 for the month of June last.

News Notes

A liberal rate of interest with absolute security is the attractive offer made by the Minister of Finance to holders of the Canadian Government war loan bonds maturing December 1, 1922. The offer is not made to investors generally, but only to the holders of the bonds soon to mature. The bonds to be retired, bearing interest at five and one-half per cent., will be exchanged for new bonds bearing the same rate of interest. See the advertisement of the Minister of Finance.

The article entitled, "The Production of Clean Milk," which appeared in the July number of the PUBLIC HEALTH JOURNAL, was in error credited to Mr. E. H. Stonehouse, President of the National Dairy Council of Canada. This article was written by Mr. Alexander R. White, Chief Sanitary Inspector. The PUBLIC HEALTH JOURNAL regrets this mistake. Mr. Stonehouse's article will appear in an early issue.

The Secretary of the Canadian Tuberculosis Association will visit Manitoba, Saskatchewan, Alberta and British Columbia in October and November.

A new folder, "Finger Posts," "La Bonne Voie," is being distributed in French and English by the Canadian Tuberculosis Association, Bank Street Chambers, Ottawa. A page is devoted to each of the six following subjects: "Good Food," "Clothing," "Exercise," "Sufficient Rest," "Fresh Air," "Sunshine." It is understood that the Canadian Red Cross has furnished funds for the printing of this pamphlet.

Notes on Current Literature

From the Health Information Service, Canadian Red Cross Society:—

School Health Supervision—

Dr Josephine Baker shows that most physical defects in school children can be found during the eight to ten year period. A thorough physical examination early in school life, followed by the correction of any physical defects, should make unnecessary the yearly repetition of a complete physical examination. The author believes that routine health inspection and annual tests for defective vision offer adequate health supervision after the first complete physical examination. ("American Journal of Public Health," June, 1922, page 465).

Health Work in the Schools

Dr. Thomas D. Wood outlines the aims and methods of effective work for the health of school children. ("The Journal of the National Education Association," May, 1922, page 177).

Diphtheria Prevention Work—

By Abraham Zingher, M.D., Assistant Director, Research Laboratory, Department of Health, New York City. An account of the diphtheria prevention work in the schools of New York City. The Schick test has been applied to a large number of school children and the author reports some interesting observations from the tests in the susceptibility of children of different classes and nationalities. ("Mother and Child," May, 1922, page 207).

City Health Practice—

A report issued by the American Public Health Association on municipal health department administration in eighty-three first-class cities of the United States.

Rural Health Administration—

Report of the Committee on Rural Health Administration of the American Public Health Association. ("American Journal of Public Health," April, 1922, page 316).

Health of Rural School Children—

Suggestions for improving the rural school health programme by enlisting the co-operation of trustees, teachers, parents, school doctors and school nurses. ("The Public Health Nurse," March, 1922, page 145).

The Health Plan for Maine—

The official and voluntary organizations interested in public health in Maine have united to carry out a health plan to place a public health nurse in every community to teach to every school child the practice of health habits and to combat preventable diseases. ("The Nation's Health," May 15th, 1922, page 255).

The Isolation Hospital and Preventive Medicine—

The Medical Officer of Health of Jarrow, England, reviews the present position of the isolation hospital in the control of communicable diseases. ("Public Health,"—S.M.O.H., May, 1922, page 222).

Industrial Colonies for the Consumptive—

In a lecture before the Royal Institute of Public Health, the Medical Director of the Cambridgeshire Tuberculosis Colony describes the general scheme of industrial colonies and village settlements for the consumptive. ("The Journal of State Medicine," May, 1922, page 185).

Health Plays—

A series of health plays for teachers and pupils, by Honora Costigan, Director, Education Division, Minnesota Public Health Association.

The A. B. C. of Nutrition—

By Mary E. Sweeny, Dean of Home Economics, Michigan Agricultural College. ("Public Health," The Michigan Department of Health, May, 1922, page 575).

Malnutrition and the Scales—

A protest against over emphasis of the child's weight in relation to height and age in estimating nutrition. ("Public Health," Michigan Department of Health, May, 1922, page 594).

The Child, the Scales and the Tape Measure—

A discussion of the value of the weight of a child as a practical index of health. ("The Outlook," May 10, 1922, page 67).

League of Red Cross Societies—Popular Health Articles—

"Teaching Health Through Pictures."

"How Mosquitoes Carry Malaria."

"Treatment of the Hair."

"The Poor Man's Cow."

"A Fairy Tale."

"On Washing Up."

Book Reviews

Biology of Sex for Parents and Teachers. By T. W. Galloway. Revised and enlarged edition. Cloth. XI plus 149 pages. Illustrated. D. C. Heath & Co. Boston, New York, Chicago.

"Biology of Sex for Parents and Teachers" is an illuminating book.

The reader realizes this at once. He notes historically the growth of the study of the problems of sex, how this study has developed in the past decade, the ten years that have elapsed since the first edition of this book appeared.

In earlier days, when, as the *New York Life* declared: "It has struck sex o'clock," sex problems received attention from the biological viewpoint. The discussions were anatomical and almost mechanical. They resembled the investigations veterinaries carry on at breeding stations. There was much in them of Luther Burbank methods in his achievements in plant perfecting.

To-day, while the biological side receives fully the attention it deserves the sex question has come into social prominence by rising to a far higher plain. Its significance has increased tremendously. It discovers itself to be of vital interest. It is fundamental in all schemes for the betterment of communities physically, morally and spiritually.

Dr. Galloway says: "It is not an accident that love of God and love for mankind and the maturing of the reproductive impulses come together. The period in which the sexual powers mature is the general period of youth in which religion makes its strongest appeal.

"The producing of offspring and fitting them as effective individuals in society is the supreme object of this whole complex of sex and reproduction and of the instincts and behavior associated with them. If this fails, society fails.

"Promiscuous intercourse would destroy any confidence in virtue and even ideals of virtue, leave no place for the home and the emotions that belong to it, make impossible the effective care of children, and destroy completely the conception and sentiments of fatherhood. It would thwart, so far as humans are concerned, all

effective mating and care of offspring, and break up the most basic unit of human society—the family.

Sexual self-control is demonstrably in the interest of higher social values. It is fundamental to social advancement. It is essential to all that can make this world a truly joyous place to live in.

For showing this convincingly every one having at heart the well being of the race may indeed be grateful to Dr. Galloway."

"Education in Health," by E. G. Payne, Ph.D. Cloth, \$1.00. Pp. 253. Chicago and New York: Lyons and Carnahan, 1921.

The manuscript for this book was prepared by a number of persons intimately identified with an educational experiment in Harris Teachers' College. The instructors in the various departments were in charge of committees. These committees initiated plans, organized the subject matter, and presented conclusions for the consideration of the whole faculty. After full discussion the committees assembled for further discussion and experiment. Therefore, this programme of education in health has stood the test of practical schoolroom experience.

"Graded Outlines in Hygiene," by W. F. Cobb. Cloth, \$1.65. Pp. 214. Yonkers-on-Hudson, New York: World Book Co., 1922.

This book is a guide for teachers of hygiene in the kindergarten and junior grades. Definite suggestions show how to interest the child in health, and material is given to be presented at each lesson. This book should be valuable to health teachers.

"Rural Child Welfare," by Edward Clopper. Cloth, \$3.00. Pp. 353. New York: The Macmillan Co., 1922.

A study of the relations of the rural child to his home, school and community. This investigation was conducted in West Virginia but the practical results of the study are of general application.

"The Psychology of Nursing," by A. Cleveland Higgins. Cloth \$2.75. Pp. 337. New York: G. P. Putnam's, 1921.

This could be made a useful text-book for a class of nurses if interpreted to them by a thorough master of the subject. The content of the book consists of a series of lessons on applied psychology, omitting the fundamentals from which these lessons are derived. It is written in a bright, attractive style and endeavors by means of quotations and references to introduce the reader to some of the great modern teachers of psychology. (E. K. Russell).

Editorial

THE GOVERNMENT'S CONVERSION SCHEME.

THE attention of the holders of the five and a half per cent. war loan bonds maturing December 1, 1922, is directed to the offer of the Minister of Finance to renew the loan on favourable terms. The last Canadian loan was placed in New York at a satisfactory price. The Minister is making his present financial operation entirely a domestic one by offering to exchange the maturing bonds for new bonds bearing the same rate of interest, running for either five years or ten years as the bondholder may prefer. A further inducement to the investor is that he receives a bonus of one month's interest. The terms offered are decidedly favourable to the investor and it is probable that a large part of the maturing loan will be renewed. Arrangements for the exchange of the bonds can be made at any branch of the chartered banks. Holders who do not wish to reinvest will be paid in cash on the 1st December.

KNOWLEDGE AND BELIEF.

KNOWLEDGE and faith and belief and truth are words all of us hold in high esteem. We like to say "I know." We seek to force conviction on a listener by the positive assertion "I know." It is the most emphatic statement that we can make. Often enough it is not a statement of fact, however. It would be more accurate to say "I believe."

We believe many things that we do not know in any exact sense. We cherish these beliefs. We would not part with them. Oft times we cannot. The presence of death itself will not persuade us to give them up. But the fact that we cannot give them up does not prove that they are true. It merely shows that we cannot separate ourselves from them. They may be false—as wrong as possible. Martyrdom is not proof of correctness of view. Every cause has had martyrs and many causes have been altogether wrong and have gone down into just defeat.

Truth is agreement of thought with fact. Facts look different under different colors. They look different from different angles. Some of the facts we hear in the discussions of to-day look extremely different from the French, the English, and the German angles.

What the fact in itself is who can say? It is certain, however, that belief does not make fact, except the fact of believing, which may or may not be important and may be altogether wrong.

We do not say, "I believe" as often as we should instead of "I know." If we believed only what we know we should not believe much. Some of us might not believe anything. A belief is often a choice among several possible opinions. We are apt to think that we have freedom of belief. If we analyze carefully we shall find that we have little freedom in the business of thinking. As a man thinketh in his heart so is he. What is in his heart? Impulses. He inherited these. He had no choice in the matter. He couldn't choose his parents. He could not select the environment in which he is to be born and grow up.

Environment modifies his impulses; represses some and stimulates others. In infancy he knows nothing of this. He responds to the environment quite as a tree does to its environment; if sheltered and nourished it becomes robust; if not it is a failure, possibly a menace. Many minds are out of form and work evil because of the environment in which they developed.

Truth is difficult; knowledge—absolute knowledge—is far from plentiful, but belief abounds and faith gives strength to belief. Without faith the world would be a sad place to live in. There would be no accomplishment in a faithless world. Chaos and misery, that is all.

Faith of itself is a poor master. Could anything be more of a disaster than the Children's Crusade? Read the story over again if you have not seen it recently. It is a story of supreme faith, but intelligent direction was lacking. The fate of the children was something worse than death.

Faith is like coal—useless in the ground; very useful if taken out and managed with intelligent direction, and destructive if its burning is not under control as witness the widespread ruin of farms in Ohio last year when coal deposits miles upon miles in extent burned out and ruined thousands of individual land owners.

It is faith with intelligence behind it that counts. Such faith supplies the urge that impels the Dominion Government to support the Social Hygiene Council, for instance, and the Red Cross, and other organizations for which this journal gladly speaks. It is an incessant urge. Faith supports it and intelligence directs it. Through this faith a blight on our fair land will disappear. The blight is due largely to ignorance. As ignorance gives way to enlightenment the blight will go. Faith spells success.

